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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/176,274 | 10/21/1998 | HIDEAKI OHSHIMA | 862.2492 | 7987 |

5514 7590 01/18/2007
FITZPATRICK CELLA HARPER & SCINTO
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NEW YORK, NY 10112

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| EXAMINER |
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BRIER, JEFFERY A

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| ART UNIT | PAPER NUMBER |
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2628

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 01/18/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/176,274

Applicant(s)

OHSHIMA ET AL.

Examiner

Jeffery A. Brier

Art Unit

2628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,7-11,15-19,21-25 and 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-11,15-19,21-25 and 29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on 11/20/2006 has been entered. The amendments to claims 1, 15, and 29 overcomes the 35 USC 112 second paragraph rejection of the claims set forth in the rejection mailed on 8/18/2006. The amendments to the preamble of claim 29 overcomes one aspect of the 35 USC 101 rejection with regards to claiming a program per se.

Response to Arguments

2. Applicant's arguments concerning the 35 USC 101 rejection filed 11/20/2006 have been fully considered but they are not persuasive because the output of claims 1, 15, and 29 is abstract because the rendering means (step in claims 15 and 29) is claimed to render "output images" and to "wherein the rendered output image is frame information of image information, the frame information including fitting information fitted into a frame of the frame information by a fitting means (step in claims 15 and 29) with the fitting information". This output is at least a non-tangible and non-useful result and the output of the render means is unclear. The output is unclear because first there is "output images" and then next there is "wherein the rendered output image" (note first plural then next singular) which further renders the output abstract. Note claim 1 lines 3, 4, 5, 8, 10, 17, 22, and 25; claim 15 lines 4, 5, 6, 9, 11, 18, 23, and 26; and claim 29 lines 5, 6, 7, 11, 13, 20, 25, and 28. The claimed output is additionally nebulous since it is an image and then it is fitting information. Thus, the claimed output needs to be better

Art Unit: 2628

claimed since it is abstract unlike the anti-aliased pixel illumination intensity data to be displayed on a display means of *In re Alappat*, 31 USPQ2d 1545, 1555, 1557 (Fed. Cir. 1994) and unlike the dollar amounts of *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 47 USPQ2d 1596, 1601 (Fed. Cir. 1998) and unlike the condition of a patient's heart of *Arrhythmia Research Technology Inc. v. Corazonix Corp.*, 22 USPQ2d 1033 (Fed. Cir. 1992). *Alappat* discussed claim 15 at page 1555 and discussed their rationale at page 1557. *State Street* discussed the dollar amounts rationale at page 1601. Additionally at page 1599 *State Street* construed the means of the claims at elements d, e, f, and g to include storing of calculated values and this storing was not used in the analysis of the claim in determining the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces "a useful, concrete and tangible result"--a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.

Alappat's claim 15 discussion:

When independent claim 15 is construed in accordance with Section 112 Para. 6, claim 15 reads as follows, the subject matter in brackets representing the structure which *Alappat* discloses in his specification as corresponding to the respective means language recited in the claims:

A rasterizer [a "machine"] for converting vector list data representing sample magnitudes of an input waveform into anti- aliased pixel illumination intensity data to be displayed on a display means comprising:

(a) [an arithmetic logic circuit configured to perform an absolute value function, or an equivalent thereof] for determining the vertical distance between the endpoints of each of the vectors in the data list;

Art Unit: 2628

- (b) [an arithmetic logic circuit configured to perform an absolute value function, or an equivalent thereof] for determining the elevation of a row of pixels that is spanned by the vector;
- (c) [a pair of barrel shifters , or equivalents thereof] for normalizing the vertical distance and elevation; and
- (d) [a read only memory (ROM) containing illumination intensity data, or an equivalent thereof] for outputting illumination intensity data as a predetermined function of the normalized vertical distance and elevation.

Alappat's rationale discussion at page 1557:

(b)
Given the foregoing, the proper inquiry in dealing with the so called mathematical subject matter exception to Section 101 alleged herein is to see whether the claimed subject matter as a whole is a disembodied mathematical concept, whether categorized as a mathematical formula, mathematical equation, mathematical algorithm, or the like, which in essence represents nothing more than a "law of nature," "natural phenomenon," or "abstract idea." If so, Diehr precludes the patenting of that subject matter. That is not the case here. Although many, or arguably even all, ²² of the means elements recited in claim 15 represent circuitry elements that perform mathematical calculations, which is essentially true of all digital electrical circuits, the claimed invention as a whole is directed to a combination of interrelated elements which combine to form a machine for converting discrete waveform data samples into anti-aliased pixel illumination intensity data to be displayed on a display means. ²³ This is not a disembodied mathematical concept which may be characterized as an "abstract idea," but rather a specific machine to produce a useful, concrete, and tangible result.

State Street's rationale discussion at page 1601:

Today, we hold that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces "a useful, concrete and tangible result"--a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.

Thus, the claims do not claim a practical tangible and useful output of the claims.

Claim 3 needs to be amended to claim the render means (step in claims 15 and 29) displays the output image generated by said generation means (step in claims 15 and 29) on a display screen of a display device. Adding an amended claim 3 into the claim 1 and clarifying the render means rendering of "output images" and "output image" would overcome the 35 USC 101 non-statutory rejection of claim 1. Similar amendments to independent claims 15 and 29 would overcome the 35 USC 101 non-statutory rejection of claims 15 and 29.

Claim Rejections - 35 USC § 101

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-5, 7-11, 15-19, 21-25, and 29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Refer to MPEP 2106-2106.02.

This application is directed to a useful, concrete, and tangible result of displaying or printing the rendered image, however, these claims are not. These claims are directed to abstract rendering. The claimed output "wherein the rendered output image is frame information of image information, the frame information including fitting information fitted into a frame of the frame information by a fitting means (step in claims 15 and 29) with the fitting information" is abstract and non-tangible and non-useful. Claims 3 and 17 abstractly claim rendering the output image on a display screen but do

Art Unit: 2628

not claim displaying the rendered output. Claims 4 and 18 abstractly claim outputting rendering information but do not claim permanently visually displaying the output information. Claims 5 and 19 abstractly render print information but does not claim printing the print of the print information. *State Street Bank & Trust Co. v. Signature Financial Group Inc.* (CA FC) 47 USPQ2d 1596, 1603 (7/23/1998). *AT&T Corp. v. Excel Communications Inc.* (CA FC) 50 USPQ2d 1447. On page 1603 first paragraph the CAFC wrote in *State Street*:

Under *Benson*, this may have been a sufficient indicium of nonstatutory subject matter. However, after *Diehr* and *Alappat*, the mere fact that a claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, in and of itself, would not render it nonstatutory subject matter, unless, of course, its operation does not produce a "useful, concrete and tangible result." *Alappat*, 33 F.3d at 1544, 31 USPQ2d at 1557. 7.

On page 1603 paragraph labeled [4] the CAFC wrote:

[4] The question of whether a claim encompasses statutory subject matter should not focus on which of the four categories of subject matter a claim is directed to -- process, machine, manufacture, or composition of matter-- but rather on the essential characteristics of the subject matter, in particular, its practical utility. Section 101 specifies that statutory subject matter must also satisfy the other "conditions and requirements" of Title 35, including novelty, nonobviousness, and adequacy of disclosure and notice. See *In re Warmerdam*, 33 F.3d 1354, 1359, 31 USPQ2d 1754, 1757-58 (Fed. Cir. 1994).

Thus, claims 1-5, 7-11, 15-19, 21-25, and 29 fail to claim a useful, concrete and tangible result.

Allowable Subject Matter

4. Claims 1-5, 7-11, 15-19, 21-25, and 29 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 101 set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach or suggest determining each rendering position independently of the output images for each of said plurality of objects expressing the image selected in said selection step correspond to the output position on the basis of a ratio of change in output position between the first and second positions defined by the rendering attributes of each of said plurality of objects held in said holding step compared to the image selected in the selection step.

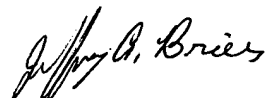
5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2628

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffery A Brier whose telephone number is (571) 272-7656. The examiner can normally be reached on M-F from 7:00 to 3:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi, can be reached at (571) 272-7664. The fax phone Number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jeffery A Brier
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